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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/08701

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/24 C07K14/54 A61K38/20 C07K16/24 C12N15/62

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, SEQUENCE SEARCH, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 314 415 A (IMMUNEX CORP) 3 May 1989 (1989-05-03) cited in the application figures 4,5; examples 3,7 ---	1-55
X	WO 00 17362 A (SCHERING CORP) 30 March 2000 (2000-03-30) * SEQ ID NO:7 *	1-55
X	WO 96 04306 A (SCHERING CORP) 15 February 1996 (1996-02-15) * SEQ ID NO:7 *	1-55
X	WO 99 03887 A (BOLDER BIOTECHNOLOGY INC; COX GEORGE N III (US)) 28 January 1999 (1999-01-28) * SEQ ID NO:14 * page 51; example 13 --- -/--	1-55

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

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Date of the actual completion of the international search

26 January 2004

Date of mailing of the international search report

03/02/2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 459 058 A (LEDER PHILIP ET AL) 17 October 1995 (1995-10-17) the whole document	1-55
X	WO 01 75140 A (UNIV CONNECTICUT) 11 October 2001 (2001-10-11) examples 7,8	1-55
X	SRINIVASAN S ET AL: "A model of IL-7 and extra-cellular domains of its receptor complex using distance geometry and structure-function data." PROTEIN ENGINEERING, vol. 6, no. SUPPL., 1993, page 107 XP009003649 Winter Symposium on Advances in Gene Technology: Protein Engineering and Beyond; Miami, Florida, USA; 1993 ISSN: 0269-2139 cited in the application the whole document	1-55
X	KROEMER ROMANO T ET AL: "Prediction of the three-dimensional structure of human interleukin-7 by homology modeling." PROTEIN ENGINEERING, vol. 9, no. 6, 1996, pages 493-498, XP009003787 ISSN: 0269-2139 cited in the application page 494 -page 497; figure 3	1-55
X	GOODWIN RG ET AL: "Human interleukin 7: molecular cloning and *growth* factor activity on human and murine B-lineage cells" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, XP002077974 ISSN: 0027-8424 cited in the application the whole document	1-55

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>COSENZA LARRY ET AL: "Disulfide bond assignment in human interleukin-7 by matrix-assisted laser desorption/ionization mass spectroscopy and site-directed cysteine to serine mutational analysis." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 272, no. 52, 26 December 1997 (1997-12-26), pages 32995-33000, XP002226701 ISSN: 0021-9258 cited in the application the whole document</p>	1-55
X	<p>COSENZA LARRY ET AL: "Comparative model building of interleukin-7 using interleukin-4 as a template: A structural hypothesis that displays atypical surface chemistry in helix D important for receptor activation." PROTEIN SCIENCE, vol. 9, no. 5, May 2000 (2000-05), pages 916-926, XP009003681 ISSN: 0961-8368 cited in the application the whole document</p>	1-55

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/08701

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0314415	A	03-05-1989	AT 109829 T	15-08-1994
			AU 616456 B2	31-10-1991
			AU 2827289 A	23-05-1989
			CA 1340491 C	13-04-1999
			DE 3851035 D1	15-09-1994
			DE 3851035 T2	01-12-1994
			DK 302089 A	19-06-1989
			EP 0314415 A2	03-05-1989
			FI 103987 B1	29-10-1999
			IE 64159 B1	12-07-1995
			IL 88151 A	31-01-1993
			JP 2749838 B2	13-05-1998
			JP 5268971 A	19-10-1993
			NO 892630 A	23-06-1989
			NZ 226679 A	25-06-1991
			WO 8903884 A1	05-05-1989
			US 5714585 A	03-02-1998
			US 4965195 A	23-10-1990
			US 6156301 A	05-12-2000
			US 5705149 A	06-01-1998
			US 5965122 A	12-10-1999
			US 5328988 A	12-07-1994
			ZA 8807773 A	26-07-1989
WO 0017362	A	30-03-2000	AU 6246199 A	10-04-2000
			CA 2343979 A1	30-03-2000
			EP 1115867 A1	18-07-2001
			JP 2002526079 T	20-08-2002
			WO 0017362 A1	30-03-2000
			US 2003099947 A1	29-05-2003
WO 9604306	A	15-02-1996	US 5696234 A	09-12-1997
			AU 3196195 A	04-03-1996
			WO 9604306 A2	15-02-1996
WO 9903887	A	28-01-1999	AU 751898 B2	29-08-2002
			AU 8300098 A	10-02-1999
			BR 9812267 A	18-12-2001
			CN 1269805 T	11-10-2000
			EP 1012184 A1	28-06-2000
			JP 2001510033 T	31-07-2001
			NZ 502375 A	30-11-2001
			WO 9903887 A1	28-01-1999
			US 2003171284 A1	11-09-2003
			US 2003162949 A1	28-08-2003
			US 2003166865 A1	04-09-2003
			US 6608183 B1	19-08-2003
US 5459058	A	17-10-1995	US 5759856 A	02-06-1998
WO 0175140	A	11-10-2001	CA 2404479 A1	11-10-2001
			WO 0175140 A1	11-10-2001
			US 2002058791 A1	16-05-2002